

State of California
Regional Water Quality Control Board
North Coast Region

Bryan McFadin and Don Coates
October 7, 2002

EXECUTIVE OFFICER'S SUMMARY REPORT
8:30 a.m., October 24, 2002
Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, California

ITEM: 6

SUBJECT: Technical Support Documents for the Mattole Sediment and Temperature TMDLs

DISCUSSION

Regional Water Board staff have completed Technical Support Documents (TSDs) for sediment and temperature TMDLs in the Mattole River watershed. The TSDs have been submitted to USEPA as the technical analysis of loads, loading capacity and load allocations for sediment and temperature in the watershed. Some of the most sensitive beneficial uses in the watershed are those associated with the cold water fisheries, and were the focus of the TMDL analysis.

A key piece of the sediment TMDL effort is development of the sediment source analysis to identify sources of sediment delivery to watercourses, and to characterize the rates of sediment delivery from these sources. To accomplish this, aerial photos taken as early as 1941 were analyzed for landslide features, and sections of roads and streams were surveyed for erosional features and characteristics. These results, with studies performed by other groups in the watershed and in similar watersheds of the North Coast, were assembled into estimates of sediment being delivered to the watercourses of the Mattole River watershed. Results indicate that sediment delivery rates from both natural and human-caused sources are among the highest estimated in North Coast sediment TMDL analyses. Roads continue to stand out as the features on the landscape that account for the largest proportion of human-caused sediment delivery.

The temperature TMDL effort focuses on sources of increased thermal loading (i.e., solar radiation) to rivers and streams. The analysis identifies several significant factors affecting increased thermal loading and increased stream temperatures. These factors include air temperature, streamside shade, relative humidity, flow and stream geometry. For the TMDL, streamside shade was used as a surrogate for solar radiation. Streamside shade is affected by management activities and is closely related to incoming solar radiation reaching streams. A GIS model was developed to compare current streamside shade conditions with potential shade conditions, based on presence of mature trees along the streams. The results show that substantial improvements in stream temperature are possible, particularly on smaller tributary streams. Stream temperature improvements on the downstream mainstem Mattole are difficult to achieve via shade improvements alone, because the wider mainstem channel is not very sensitive to changes in streamside tree heights. In these areas, increased numbers of deep (and thus cool) pools are more significant in creating stream temperature conditions suitable as salmonid habitat.

PRELIMINARY STAFF

RECOMMENDATION: This is an informational item, not an action item.